New Bioremediation Process Cleans Up Groundwater

A new bioremediation process is making the difficult job of removing chlorinated solvents from groundwater much easier. The process, developed at the U.S. Department of Energy's Idaho National Engineering and Environmental Laboratory (INEEL), takes advantage of natural processes to break down trichloroethene (TCE) in groundwater. Scientists were trying to find a cost effective way to clean up the underground aquifer beneath at INEEL's Test Area North, which was contaminated with organic sludge and wastewater, resulting in a two mile long TCE groundwater plume. TCE, used for degreasing and one of the most common groundwater contaminants at hazardous waste sites in the U.S., had been injected into the aquifer over a period of 15 years. Scientists found that the INEEL process helps dissolve the TCE, which accelerates its degradation. The process is much cheaper than conventional methods and because the remediation is done underground, the land remains almost undisturbed. North Wind Environmental, Inc., a local engineering and consulting firm, has obtained a license to use the INEEL's innovative process called Bioavailability Enhancement Technology (BET). "BET is part of a breakthrough in the understanding of bioremediation that has the potential to revolutionize the cleanup of chlorinated solvent source areas, which are one of the biggest environmental challenges facing industry, the government and cleanup professionals today," said Kent Sorenson, North Wind director for applied research and a former INEEL scientist. Success of the large scale test of BET at INEEL has won the approval of the state of Idaho and the U.S. Environmental Protection Agency. BET, combined with monitored natural attenuation - the natural contaminant degradation that takes place in the TCE plume - is expected to save $23 million at Test Area North.